

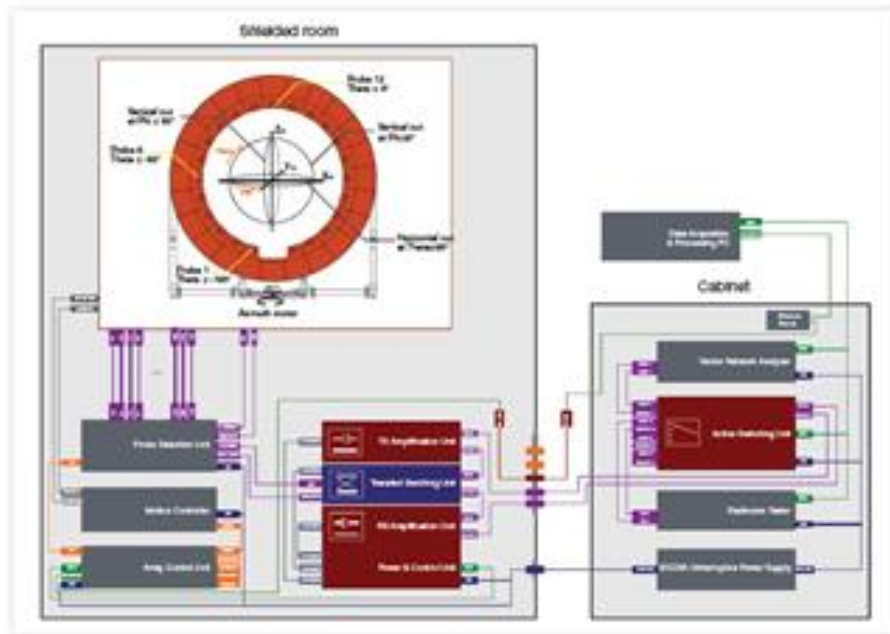


Nellie_I SKU P2 Antenna Testing Report - For Lab

2026.05.25
v04

Test Chamber General Information

- Antenna Vendor : WNC
- Test Date : Dec. 2025
- Test Engineer : Evan
- Measurement System : SATIMO SG24
- Software Name : Wave Studio
- Software Version : 22.5.6



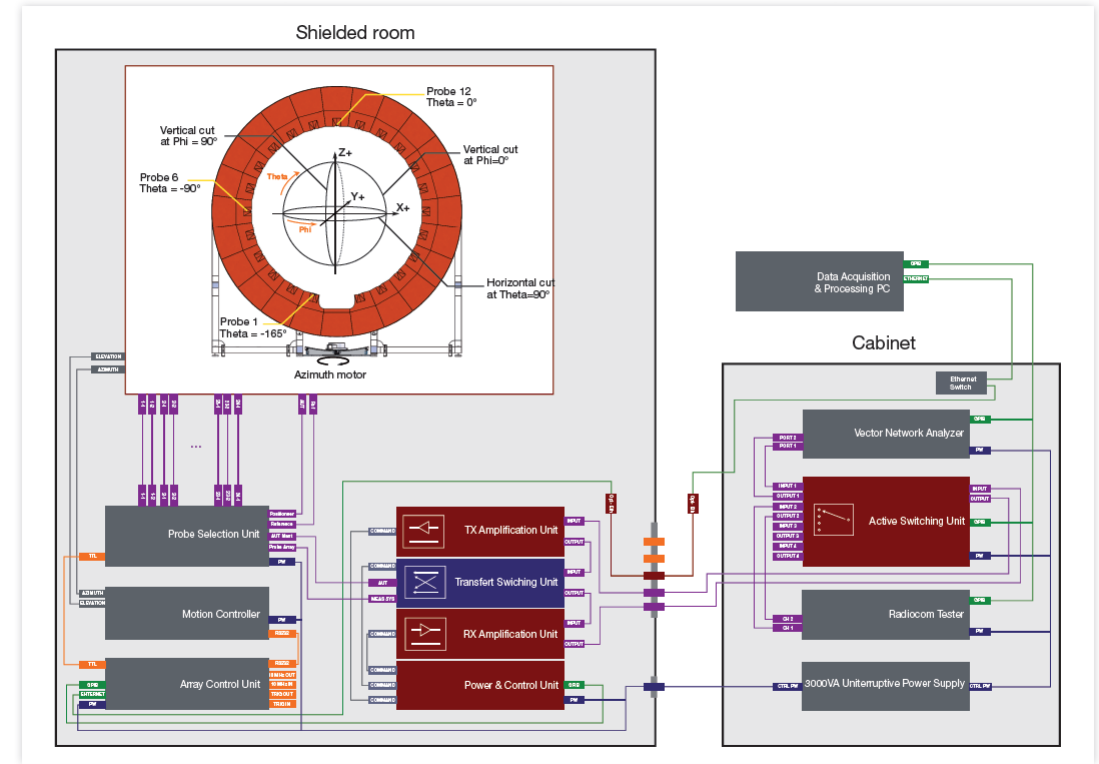
Antenna Measurement System Information

- Measurement System: SATIMO SG24 Chamber

Measurement setup:

- pattern & gain measurement
 - 1.satimo chamber (SG24)
 - 2.satimo program (wave studio)
 - 3.system overview :
- test item
 - 1.antenna passive test 400MHz~9GHz

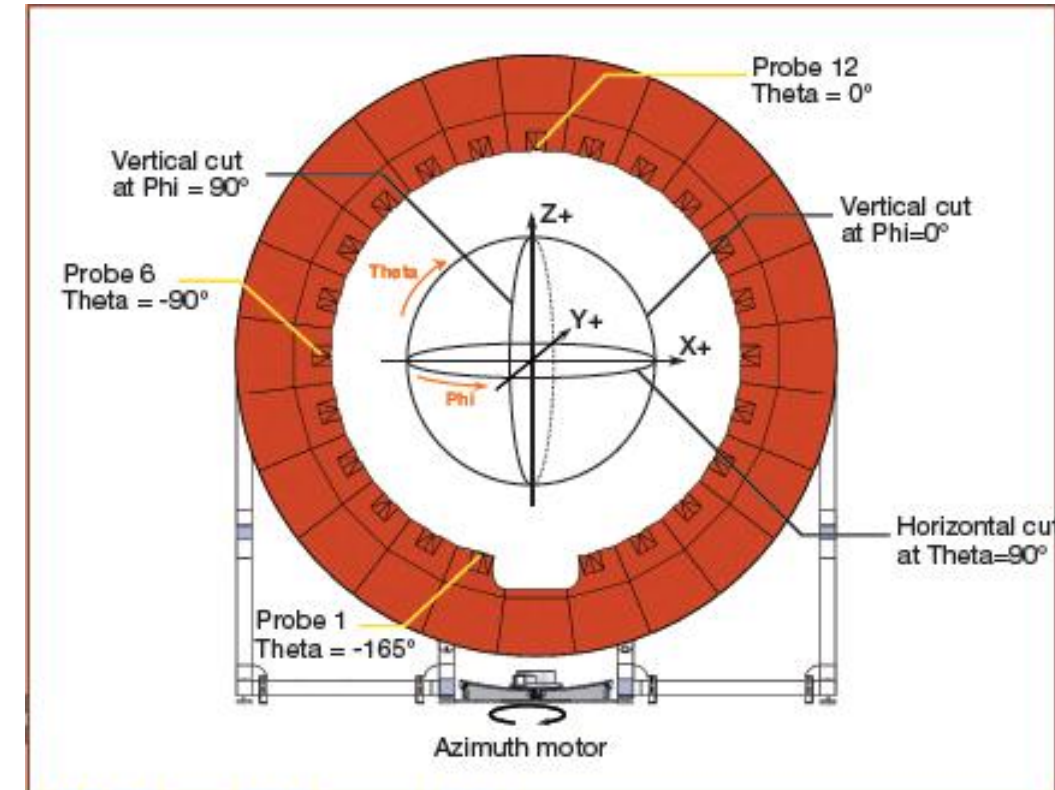
- Calibration Information



Device	Type / Model	Serial #	Manufacture	Cal. Date
Antenna Measurement System	SG24-L	HKG1669S	MVG-SATIMO	2025-10
Network Analyzer	Keysight E5080B	MY59203136	Keysight	2025-10

Test Procedure

1. Place the device to be tested on the fixture and align it with the center of the chamber.
2. Connect the antenna cable to the RF connector of the chamber.
3. Use the SW to configure parameters (antenna name, frequency points, measurement angles, antenna dimension), and then run the test SW (wave studio).
4. By phi from 0° to 360° and theta from 0° to 180° with a step size of 2 degrees, get the 3D data, including efficiency, peak gain, 2D and 3D radiation patterns.
5. This is far field test for antenna verification.
6. This is passive measurement, which means the device is off and not in any operating mode.



Name and address of the antenna manufacture

WebCom Communication (Kunshan) Corporation - Kunshan Plant

 No. 6, 88 Central Avenue, Kunshan City,
Jiangsu Province, P.R.C.

 215300

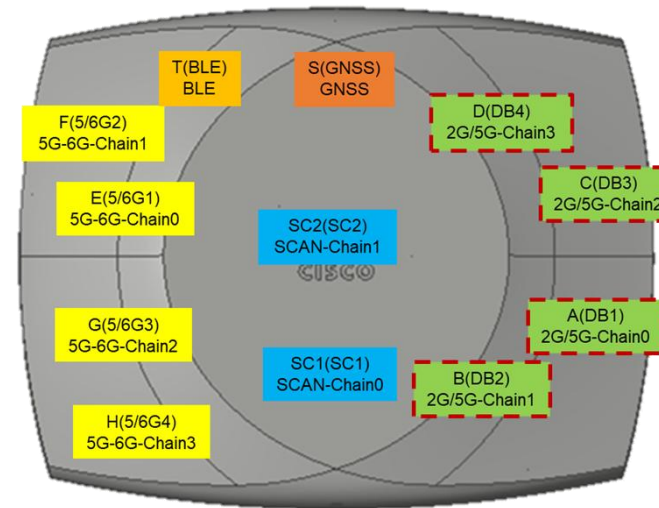
 +86-512-5772-2688

 +86-512-5772-3168

WIFI Dual-band - Composite Gain

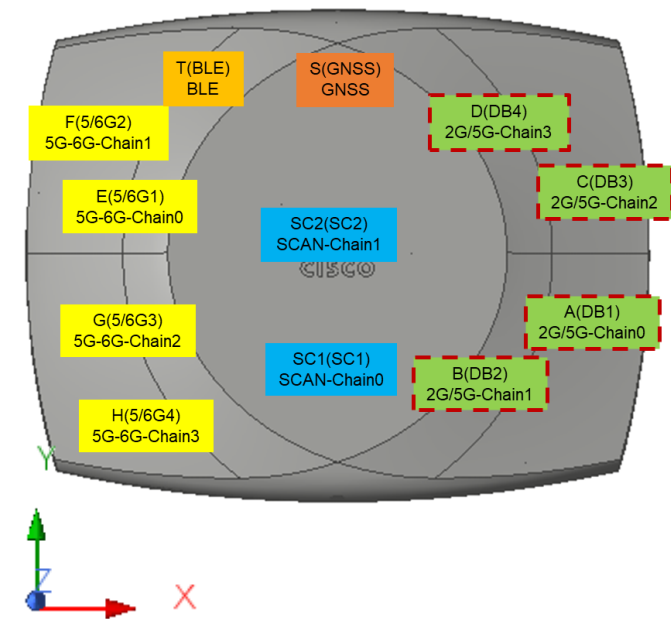
Freq.	2.45GHz	5.2GHz	5.3GHz	5.6GHz	5.785GHz
DB1 Max Gain (dBi)	3.26	6.39	5.94	4.72	4.10
DB2 Max Gain (dBi)	4.94	3.79	4.08	3.73	5.40
DB3 Max Gain (dBi)	2.51	5.67	5.38	4.71	4.38
DB4 Max Gain (dBi)	4.47	3.92	4.23	4.25	3.79
DB1 Pol. Theta / Phi	Theta 51 / 72	Theta 81 / 162	Theta 84 / 159	Theta 81 / 150	Theta 51 / 291
DB2 Pol. Theta / Phi	Phi 48 / 156	Phi 66 / 57	Phi 66 / 54	Phi 84 / 162	Phi 84 / 156
DB3 Pol. Theta / Phi	Theta 63 / 207	Theta 81 / 213	Theta 60 / 165	Theta 81 / 216	Theta 57 / 270
DB4 Pol. Theta / Phi	Phi 48 / 207	Phi 81 / 210	Phi 81 / 210	Phi 81 / 222	Phi 84 / 216

Radio	Antenna report	Polarization	model	Type
Radio 1- 2G/ Radio 3- 5GL5GF	DB1	V-pol	95XPAN15.G01	PIFA
	DB2	H-pol	95XPAN15.G02	Dipole
	DB3	V-pol	95XPAN15.G03	PIFA
	DB4	H-pol	95XPAN15.G04	Dipole



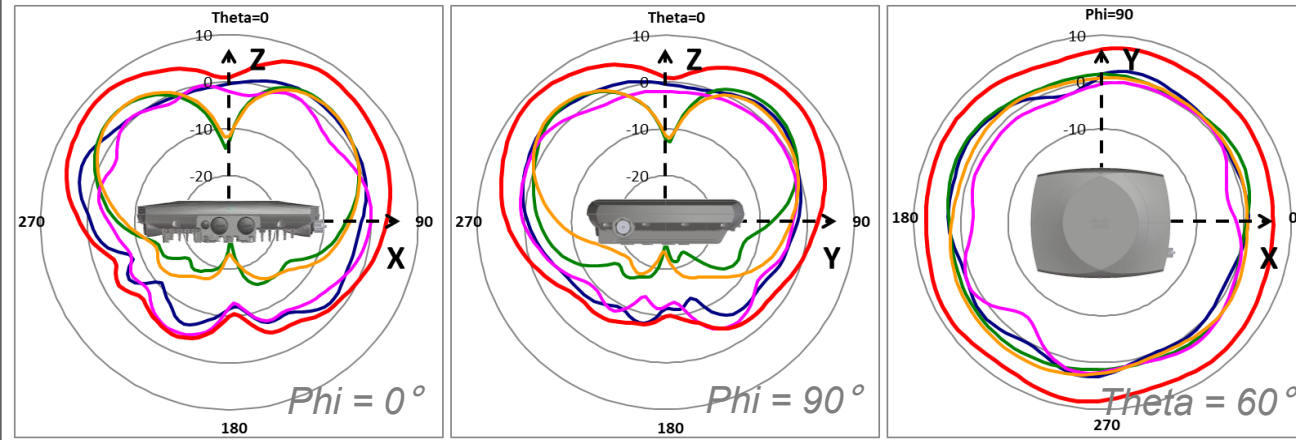
DB1 & DB3 → V-pol
DB2 & DB4 → H-pol

WIFI Dual-band - Pattern



DB_2G
Radiation Pattern

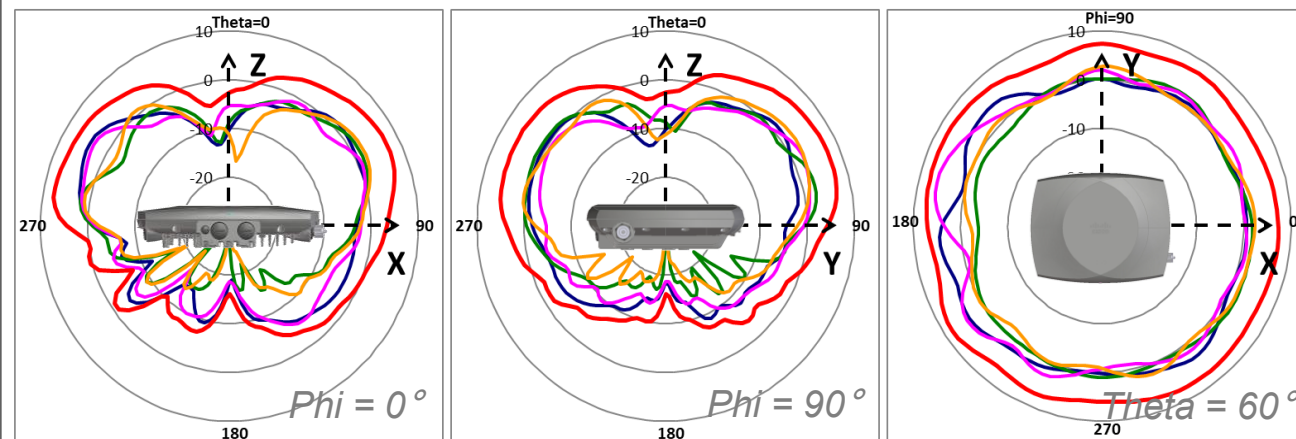
— Directional Gain
— DB1
— DB2
— DB3
— DB4



ANT	Ripple
DB1_2G	5.1 dB
DB2_2G	3.9 dB
DB3_2G	6.9 dB
DB4_2G	3.2 dB
Composite	2.9 dB

DB_5G
Radiation Pattern

— Directional Gain
— DB1
— DB2
— DB3
— DB4

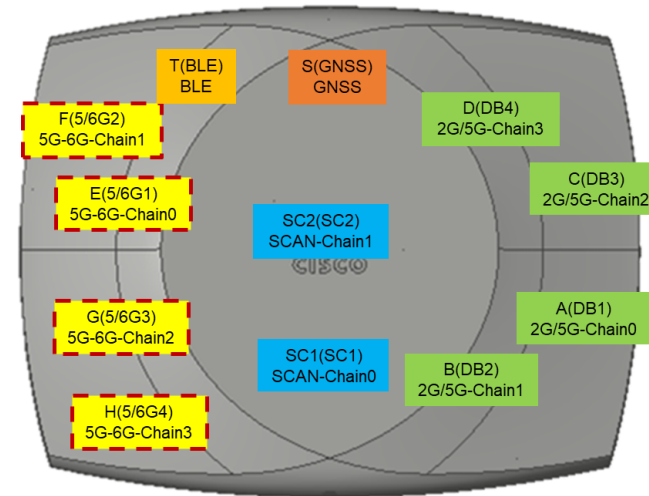


ANT	Ripple
DB1_5G	5.8 dB
DB2_5G	5.9 dB
DB3_5G	7.3 dB
DB4_5G	5.3 dB
Composite	3.0 dB

WIFI 5/6G - Composite Gain

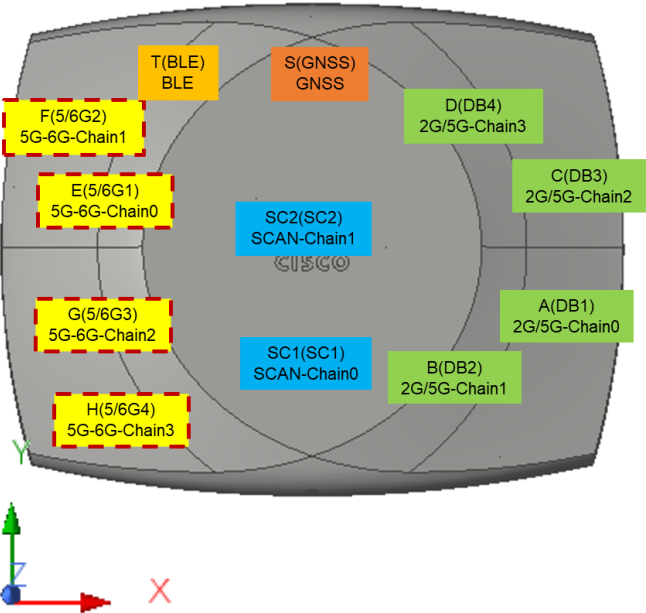
Freq.	5.6 GHz	5.785 GHz	6.175 GHz	6.475 GHz	6.695 GHz	6.995 GHz
5/6G1 Max Gain (dBi)	3.57	4.71	5.50	5.40	6.47	5.15
5/6G2 Max Gain (dBi)	6.43	5.77	5.44	5.31	5.31	5.51
5/6G3 Max Gain (dBi)	4.10	3.46	4.13	4.65	4.70	3.75
5/6G4 Max Gain (dBi)	5.31	5.06	5.81	6.52	6.51	6.58
5/6G1 Pol. Theta / Phi	Theta 57 / 15	Theta 81 / 315	Theta 81 / 318	Theta 72 / 123	Theta 66 / 123	Theta 66 / 123
5/6G2 Pol. Theta / Phi	Theta 15 / 153	Theta 12 / 153	Phi 3 / 159	Theta 21 / 162	Phi 9 / 162	Phi 6 / 162
5/6G3 Pol. Theta / Phi	Phi 15 / 255	Phi 18 / 255	Theta 78 / 81	Theta 63 / 84	Theta 72 / 177	Theta 66 / 177
5/6G4 Pol. Theta / Phi	Phi 12 / 102	Phi 24 / 102	Phi 9 / 285	Phi 9 / 285	Phi 9 / 282	Theta 9 / 9

Radio	Antenna report	Polarization	model	Type
Radio 2 6GF/5GH	5/6G1	V-pol	95XPAN15.G05	PIFA
	5/6G2	H-pol	95XPAN15.G06	Dipole
	5/6G3	V-pol	95XPAN15.G07	PIFA
	5/6G4	H-pol	95XPAN15.G08	Dipole



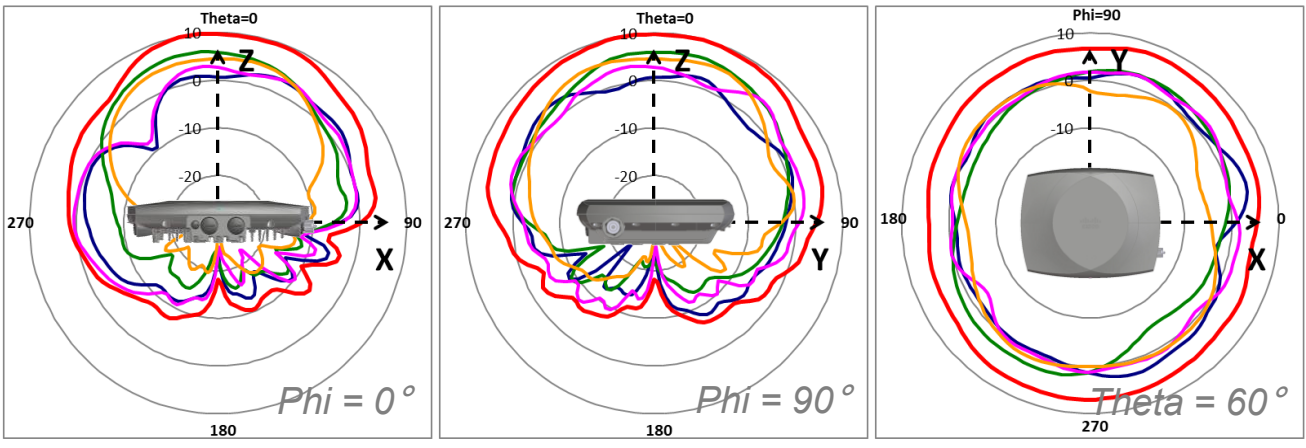
5/6G1 & 5/6G3 → V-pol
5/6G2 & 5/6G4 → H-pol

WIFI 5/6G - Pattern



5/6G_5G
Radiation Pattern

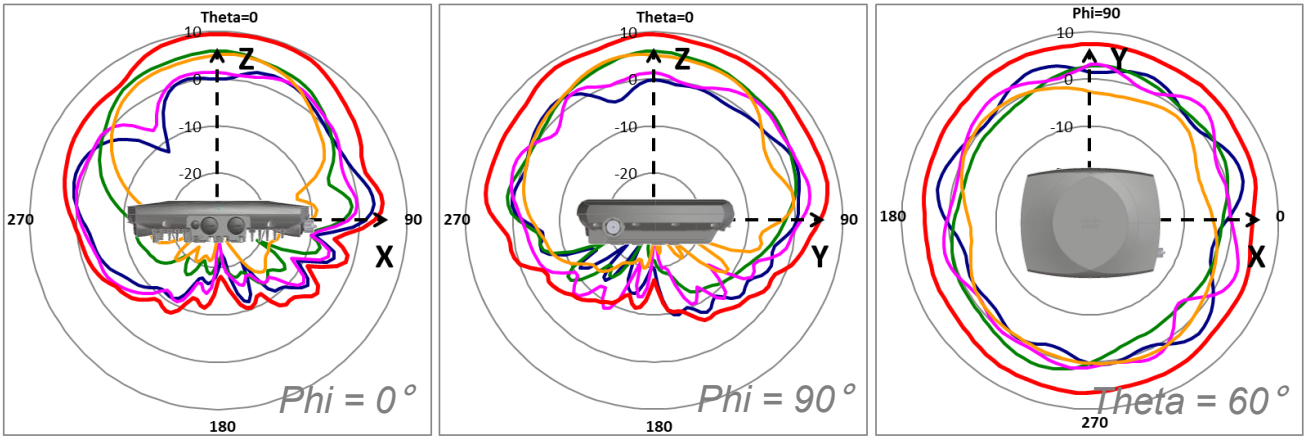
Directional Gain
56G1
56G2
56G3
56G4



ANT	Ripple
5/6G1_5G	6.7 dB
5/6G2_5G	7.6 dB
5/6G3_5G	6.4 dB
5/6G4_5G	7.0 dB
Composite	3.6 dB

5/6G_6G
Radiation Pattern

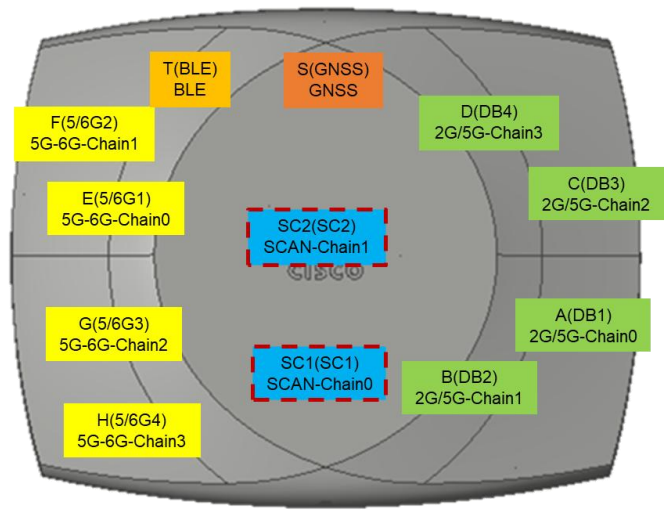
Directional Gain
56G1
56G2
56G3
56G4



ANT	Ripple
5/6G1_6G	7.4 dB
5/6G2_6G	6.5 dB
5/6G3_6G	8.4 dB
5/6G4_6G	6.4 dB
Composite	3.3 dB

Scanning - Composite Gain

Freq.	2.45GHz	5.2GHz	5.3GHz	5.6GHz	5.785GHz	6.175Ghz	6.475GHz	6.695GHz	6.995GHz
SC1 Max Gain (dBi)	4.89	4.40	4.72	5.23	5.34	5.00	3.66	4.13	5.08
SC2 Max Gain (dBi)	4.61	4.09	4.77	6.19	4.88	6.57	5.01	5.50	5.37
SC1 Pol. Theta / Phi	Theta 42 / 144	Theta 66 / 90	Theta 78 / 126	Theta 75 / 291	Theta 72 / 294	Theta 72 / 303	Theta 75 / 270	Theta 78 / 351	Theta 75 / 279
SC2 Pol. Theta / Phi	Theta 48 / 42	Theta 72 / 96	Theta 69 / 93	Theta 69 / 93	Theta 66 / 357	Theta 78 / 174	Theta 63 / 129	Theta 63 / 135	Theta 81 / 216

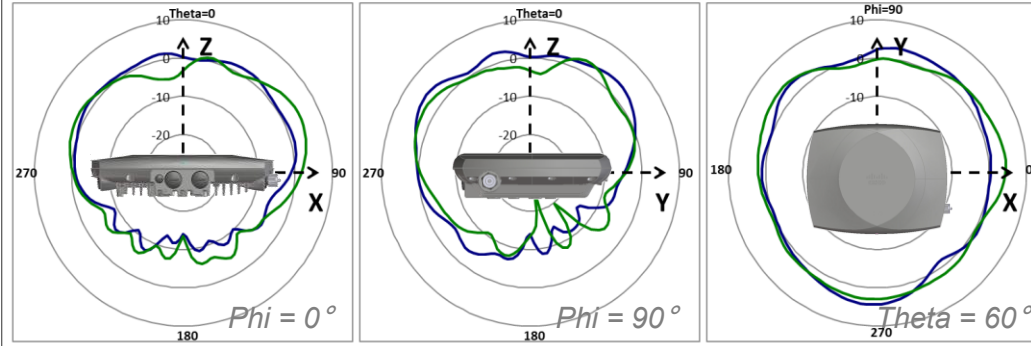


Radio	Antenna report	Polarization	model	Type
Radio 0 SCAN (2T2R)	SC1	V-pol	95XPAN15.G09	PIFA
	SC2	V-pol	95XPAN15.G10	PIFA

SC1 & SC2 → V-pol

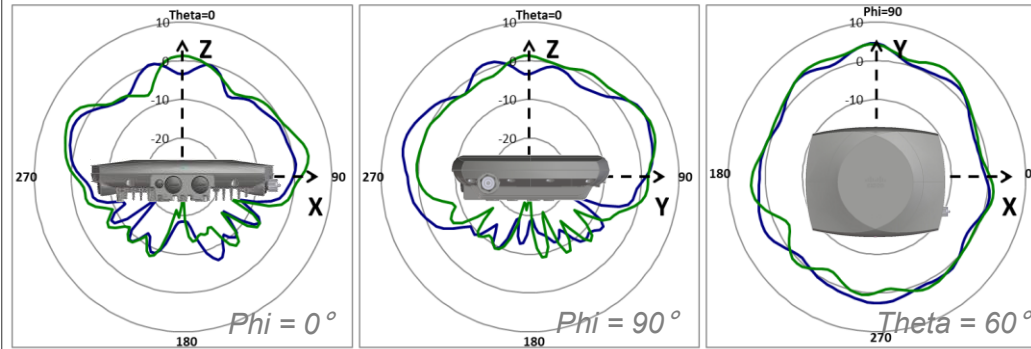
Scanning - Pattern

**SC_2G
Radiation Pattern**



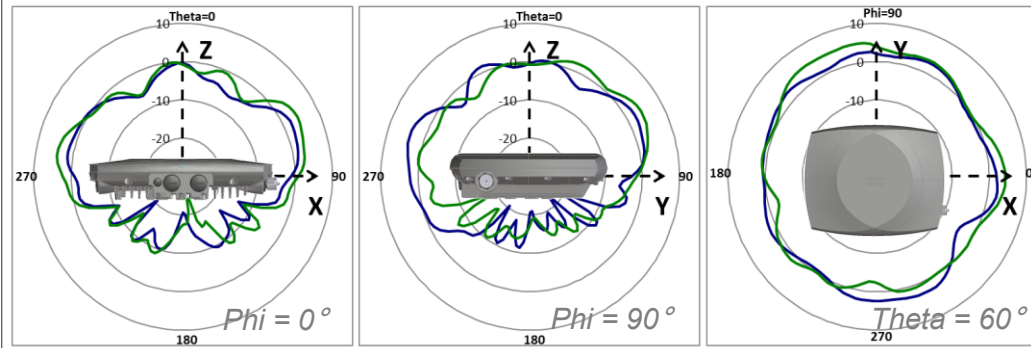
ANT	Ripple
SC1_2G	6.0 dB
SC2_2G	5.9 dB

**SC_5G
Radiation Pattern**

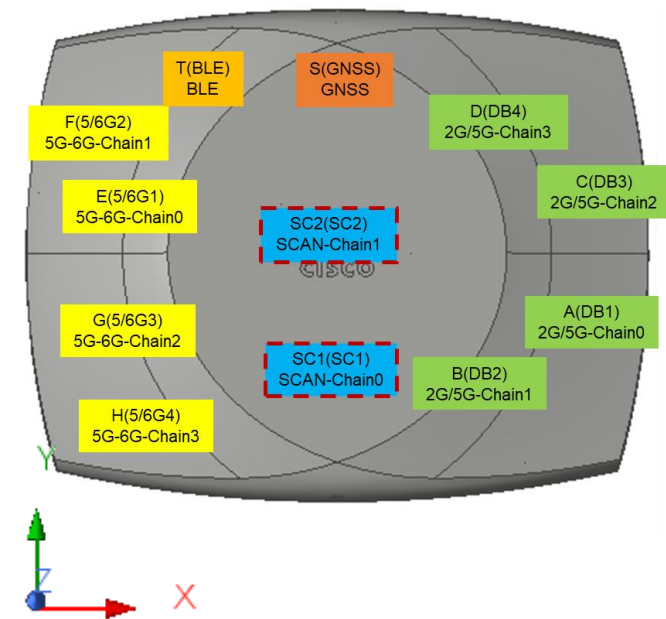


ANT	Ripple
SC1_5G	6.8 dB
SC2_5G	7.7 dB

**SC_6G
Radiation Pattern**

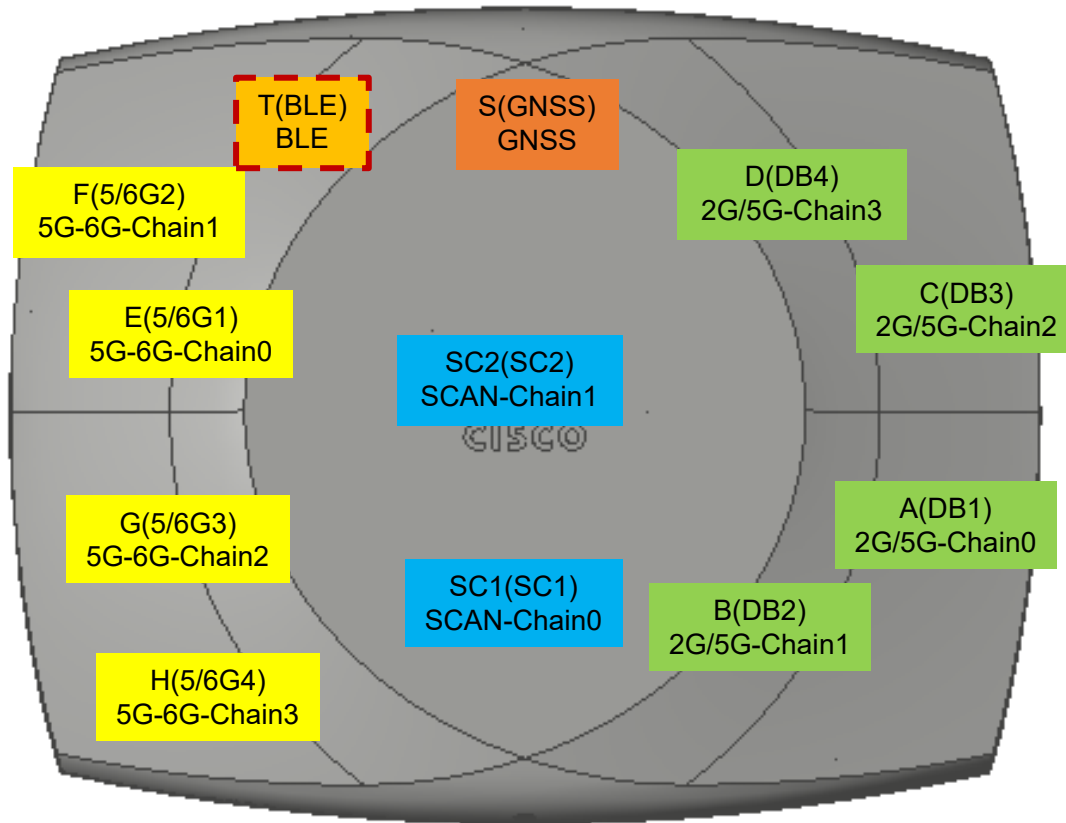


ANT	Ripple
SC1_6G	7.2 dB
SC2_6G	7.8 dB



BLE - Gain

(802.15.4)

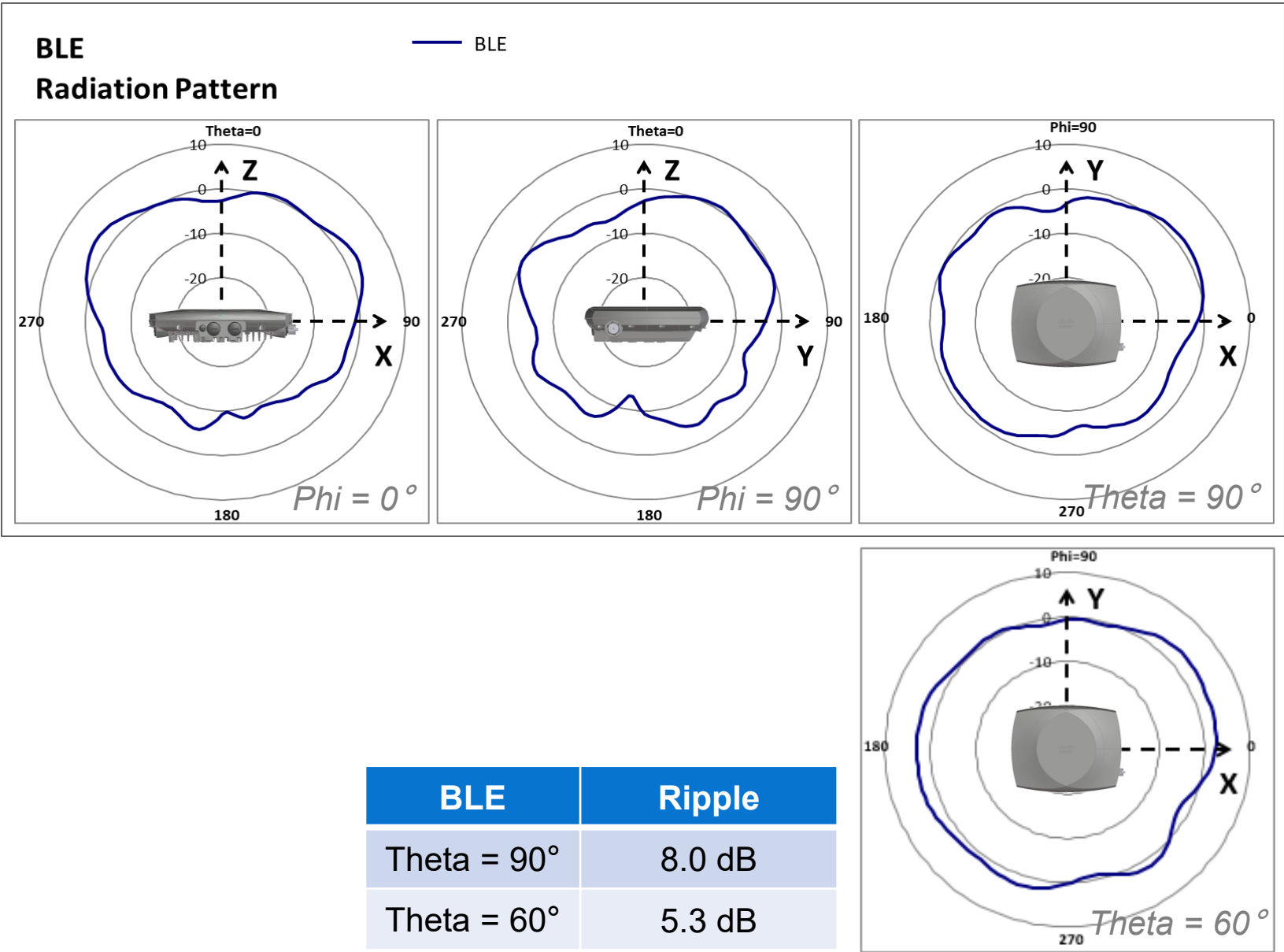
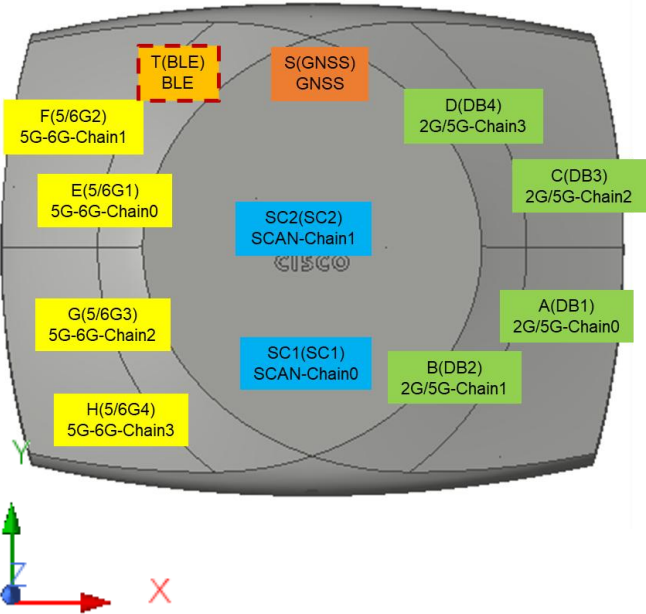


Radio	Antenna report	Polarization	model	Type
BLE/Zigbee	BLE	V-pol	95XPAN15.G11	PIFA

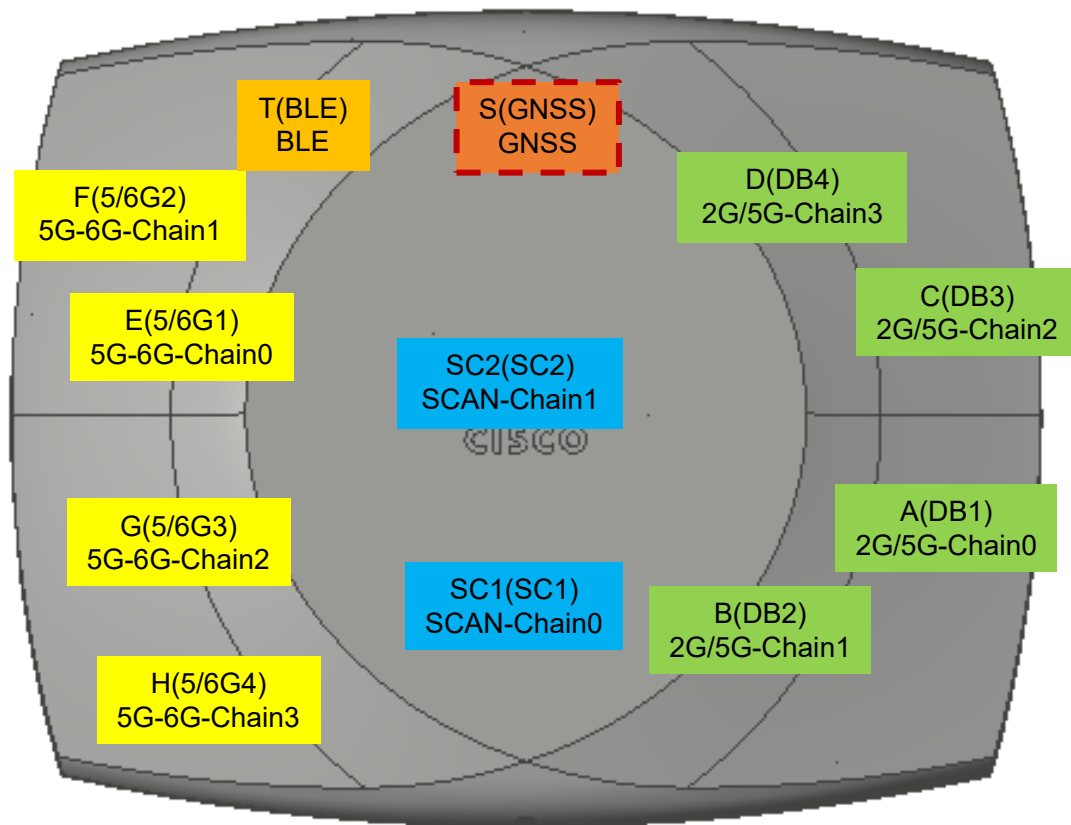
(802.15.4)

Freq.	2.4GHz	2.45GHz	2.484GHz
BLE Max Gain (dBi)	3.3	3.0	2.7
BLE Pol. Theta / Phi	Theta 51 / 165	Theta 51 / 171	Theta 60 / 36

BLE - Pattern



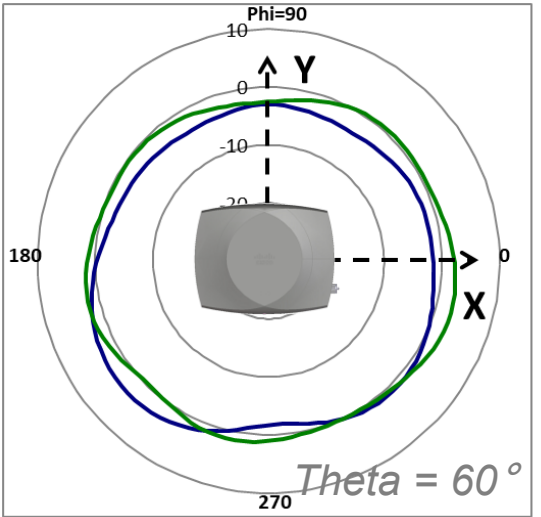
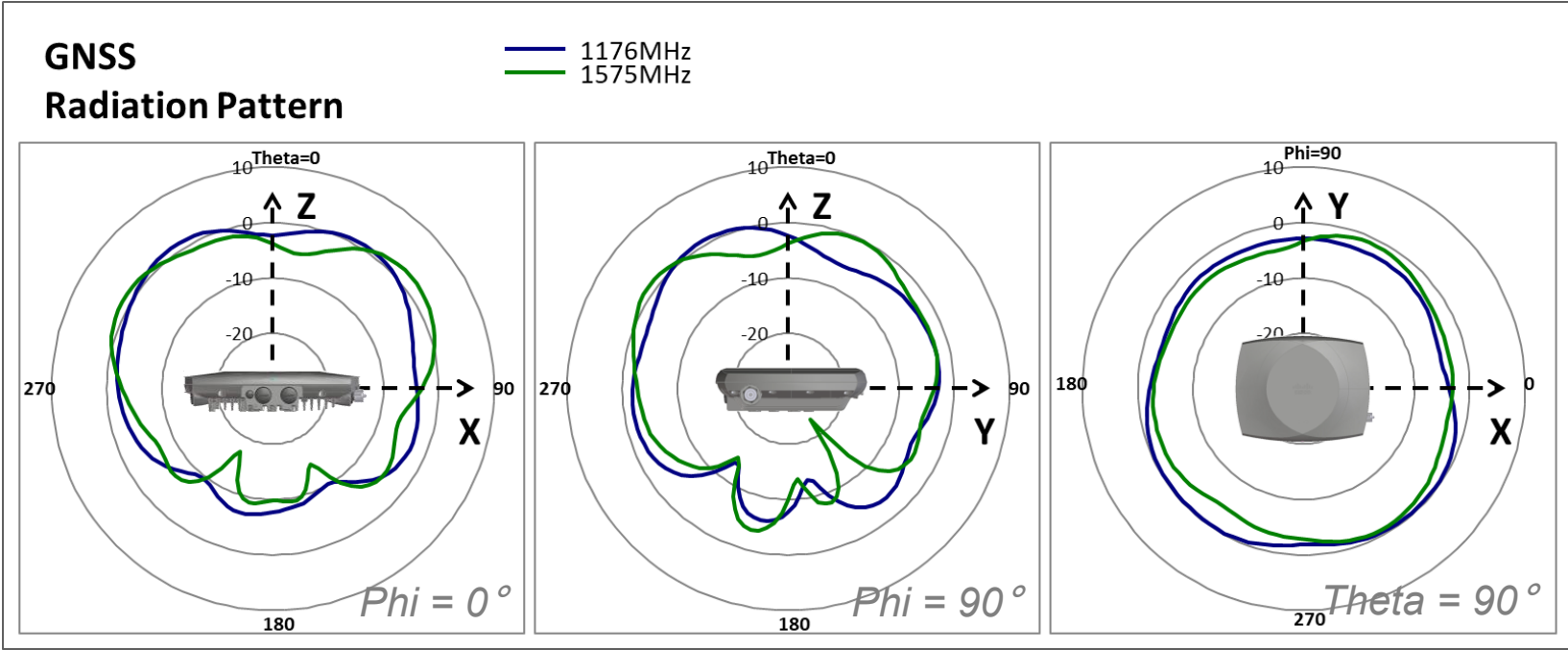
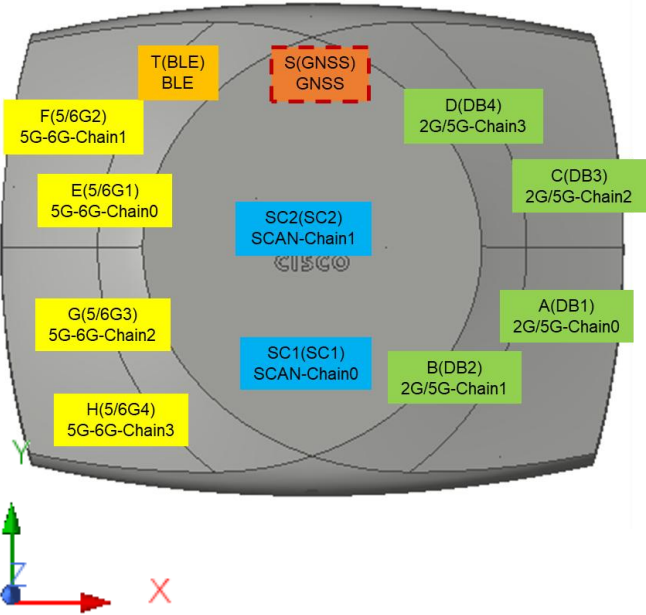
GNSS - Gain



Radio	Antenna report	Polarization	model	Type
GNSS	GNSS	V-pol	95XPAN15.G12	PIFA

Freq.	1.176GHz	1.575GHz
GNSS Max Gain (dBi)	3.8	2.9
GNSS Pol. Theta / Phi	Theta 54 / 342	Theta 48 / 219

GNSS - Pattern



GNSS Ripple	1176MHz	1575MHz
Theta = 90°	4.5 dB	3.6 dB
Theta = 60°	7.2 dB	5.4 dB

Gain Above 30 Degrees Over The Horizon

Dual Band	Frequency	Major polarization Gain
DB1	5150	-3.3
	5250	-2.9
DB2	5150	-8.1
	5250	-6.7
DB3	5150	-4.2
	5250	-2.9
DB4	5150	-7.3
	5250	-6.3

Gain Above 30 Degrees Over The Horizon

5G-6G	Frequency	Major polarization Gain
5G-6G1	5925	-3.8
	6425	-3.3
	6525	-3.7
	6875	-3.4
5G-6G2	5925	-9.0
	6425	-6.0
	6525	-5.4
	6875	-5.1
5G-6G3	5925	-4.0
	6425	-3.5
	6525	-3.0
	6875	-3.6
5G-6G4	5925	-9.3
	6425	-6.4
	6525	-6.1
	6875	-5.8

Gain Above 30 Degrees Over The Horizon

Scanning	Frequency	Major polarization Gain
SC1	5150	-4.2
	5250	-3.4
	5925	-2.1
	6425	-2.0
	6525	-2.3
	6875	-1.5
SC2	5150	-4.0
	5250	-5.1
	5925	-4.1
	6425	-4.0
	6525	-4.3
	6875	-3.0

The background of the slide features a low-angle shot of a modern glass skyscraper under a bright, sunny sky. In the lower-left foreground, there are out-of-focus green leaves. The WNC logo is prominently displayed in the upper center, and the words 'Thank You!' are centered below it. A smaller WNC logo is visible on a building in the background.

WNC

WNC Corporation

Thank You!